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EXAMINER	
MATTIS, JASON E	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,450	ITO ET AL.	
	Examiner	Art Unit	
	Jason E Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2/5/02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claims 4, 7, 13, and 18 are objected to because of the following informalities:

Claims 4 states, "means for causing the communication device on the reception side to estimate the reception quality of the encoded data at the communication device on the reception side on the basis of the reception quality of a transmission data transmitted from the communication device on the reception side". There appears to be a typo in this claim as it should be the communication device on the "transmission side" that estimates the reception quality of the encoded data at the communication device on the reception side. It is recommended that the first occurrence of the term "reception side" in the above quoted claim limitation be changed to "transmission side".

Claims 7, 13, and 18 all use the terms "the reception side" and "the transmission side". It is recommended that the first occurrence of these terms in each of these claims be changed to "a reception side" and "a transmission side", since, before the first

occurrence of these terms, it is not clear what transmission side and reception side is being claimed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 9-12 and 14-17 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of storing received video data in a memory, determining a time period from when deterioration of the reception field strength has been detected until the I frame has been received, and deleting data recorded during the determined time period, does not reasonably provide enablement for "a record control means for deleting the encoded data received when said reception quality deteriorated to said first state". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. More specifically, with respect to claim 9, a "record control means for deleting the encoded data received when said reception quality deteriorated to said first state" is claimed; however, this claim does not accurately represent the invention described in the specification. There is no mention in the detailed description of deleting all encoded data when the reception quality has

deteriorated to the first state. The detailed description instead describes a method of storing received video data in a memory, determining a time period from when deterioration of the reception field strength has been detected until the I frame has been received, and deleting data recorded during the determined time period. No embodiment of the invention is described where all the encoded data is deleted as in claim 9. Only data recorded during a time period or deteriorated signal quality is deleted according to the embodiments described in the detailed description (See page 25 line 14 to page 29 line 7 of the Applicant's specification). Claims 10-12 and 14-17 all contain similar limitation to claim 9, in which all received encoded is claimed to be deleted. It is recommended that these claims be amended to more accurately claim the described invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-4, 7, 13, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mangold et al. (U.S. Pat. 5926232) in view of Jeong (U.S. Pat. 6393060).

With respect to claim 1, Mangold et al. discloses a data transmission system for transmitting encoded data via a transmission channel **(See column 3 lines 6-15 and Figure 1 of Mangold et al. for reference to a data transmission system for transmitting bi-directional transmission signals, such as video signals, over a telecommunications network 1 between two terminals)**. Mangold et al. also discloses that the encoded data is composed of a first data generated based on a plurality of original data having correlations on the time axis in the initial frame timing thereof and of a plurality of second data generated respectively in a plurality of frame timings subsequent to the initial frame timing with the first data having an independent meaning alone and the plurality of second data containing mainly a difference between the original data of a current frame and the original data of the preceding frame respectively **(See column 1 lines 17-31 of Mangold et al. for reference to using MPEG4, which as disclosed by the Applicant's background uses an initial I frame, which has an independent meaning alone, and a plurality of P frames, which include mainly information on the difference between the image of the present frame and that of the preceding frame)**. Mangold et al. further discloses a transmission quality monitoring means for monitoring the quality of the transmission channel in the course of transmitting encoded data **(See column 3 lines 16-62 and Figure 1 of Mangold et al. for reference to channel decoder 7 generating signals QP1 and Qp2, which are quality parameters that describe the quality of the transmitted signals)**. Although Mangold et al. does disclose that a transmission control means takes a quality control action when the transmission quality monitoring

means has detected that the quality of the transmission channel has deteriorated to a preset first state and thereafter has been restored to a preset second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again and for reference to changing the bit redundancy rate based on the current signal quality)**, Mangold et al. does not specifically disclose transmitting the first data in place of the second data.

With respect to claim 2, Mangold et al. discloses that the transmission quality monitoring means includes a mean for monitoring the reception quality of the encoded data transmitted via the transmission channel at the communication device on the reception side **(See column 3 lines 16-62 and Figure 1 of Mangold et al. for reference to channel decoder 7 generating signals QP1 and Qp2, which are quality parameters that describe the quality of the transmitted signals at the device on the reception side)**. Mangold et al. also discloses a detecting means for detecting the deterioration of the reception quality to the first state and the subsequent restoration of the reception quality to the second state on the basis of the result of the transmission quality monitoring means monitoring the reception quality state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again)**. Mangold et al. does not specifically disclose a means for causing the communication device on the reception side to notify the communication device on the transmission side of a request for the transmission of

the first data and, in response to the request, the communication device on the transmission side transmitting the first data in place of the second data.

With respect to claim 3, Mangold et al. discloses a monitoring means for causing the communication device on the reception side to monitor the reception quality of the encoded data transmitted via the transmission channel **(See column 3 lines 16-62 and Figure 1 of Mangold et al. for reference to channel decoder 7 generating signals QP1 and Qp2, which are quality parameters that describe the quality of the transmitted signals at the device on the reception side)**. Mangold et al. also discloses a notifying means for notifying the communication device on the transmission side of a monitored information obtained by the monitoring means **(See column 3 lines 43-52 and Figure 1 of Mangold et al. for reference to quality parameters QP1 and QP2 being transmitted via a multiplexer 12 to the device on the transmission side)**. Mangold et al. further discloses a means for causing the communication device on the transmission side to detect the deterioration of the reception quality to the first state at the communication device on the reception side and the subsequent restoration of the reception quality to the second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again)**. Mangold et al. does not specifically disclose a means for causing the first device to transmit the first data to the communication device on the reception side in place of the second data.

With respect to claim 4, Mangold et al. disclose a two-way data transmission between the communication device on the transmission side and that on the reception side **(See column 3 lines 6-15 of Mangold et al. for reference to bi-directional transmission of signals such as video signals)**. Mangold et al. also discloses a means for causing the communication device on the transmission side to estimate the reception quality of the encoded data at the communication device on the reception side on the basis of the reception quality of a transmission data transmitted from the communication device on the reception side **(See column 3 line 16 to column 4 line 5 of Mangold et al. for reference to using the quality of channels determined in one direction to control the channel in the other direction meaning that the reception quality on the reception side is estimated based on the reception quality of transmission side, due to channels behaving very similarly in both directions)**. Mangold et al. further discloses a means for detecting the deterioration of the reception quality to the first state at the communication device of the reception side and the subsequent restoration of the reception quality to the second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again)**. Mangold et al. does not specifically disclose a means for causing the communication device on the transmission side to transmit the first data to the communication device on the reception side in place of the second data.

With respect to claim 7, Mangold et al. discloses a communication device on the reception side, which receives encoded data transmitted via a transmission channel

from a communication device on the transmission side **(See column 3 lines 6-15 and Figure 1 of Mangold et al. for reference to a data transmission system for transmitting bi-directional transmission signals, such as video signals, over a telecommunications network 1 between two terminals, with one on the reception side and one on the transmission side)**. Mangold et al. also discloses that the encoded data is composed of a first data generated based on a plurality of original data having correlations on the time axis in the initial frame timing thereof and of a plurality of second data generated respectively in a plurality of frame timings subsequent to the initial frame timing with the first data having an independent meaning alone and the plurality of second data containing mainly a difference between the original data of a current frame and the original data of the preceding frame respectively with the original data being reconstructed from the received first and second data **(See column 1 lines 17-31 of Mangold et al. for reference to using MPEG4, which as disclosed by the Applicant's background uses an initial I frame, which has an independent meaning alone, and a plurality of P frames, which include mainly information on the difference between the image of the present frame and that of the preceding frame)**. Mangold et al. further discloses a transmission quality monitoring means for monitoring the reception quality of encoded data transmitted via the transmission channel **(See column 3 lines 16-62 and Figure 1 of Mangold et al. for reference to channel decoder 7 generating signals QP1 and Qp2, which are quality parameters that describe the quality of the transmitted signals)**. Although Mangold et al. does disclose that a reception control means takes a quality control action when the

transmission quality monitoring means has detected that the quality of the transmission channel has deteriorated to a preset first state and thereafter has been restored to a preset second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again and for reference to changing the bit redundancy rate based on the current signal quality)**, Mangold et al. does not specifically disclose causing the communication device on the transmission side to transmit the first data in place of the second data.

With respect to claim 13, Mangold et al. discloses a communication device on the reception side, which receives encoded data transmitted via a transmission channel from a communication device on the transmission side **(See column 3 lines 6-15 and Figure 1 of Mangold et al. for reference to a data transmission system for transmitting bi-directional transmission signals, such as video signals, over a telecommunications network 1 between two terminals, with one on the reception side and one on the transmission side)**. Mangold et al. also discloses that the encoded data is composed of a first data generated based on a plurality of original data having correlations on the time axis in the initial frame timing thereof and of a plurality of second data generated respectively in a plurality of frame timings subsequent to the initial frame timing with the first data having an independent meaning alone and the plurality of second data containing mainly a difference between the original data of a current frame and the original data of the preceding frame respectively with the original data being reconstructed from the received first and second data **(See column 1 lines**

17-31 of Mangold et al. for reference to using MPEG4, which as disclosed by the Applicant's background uses an initial I frame, which has an independent meaning alone, and a plurality of P frames, which include mainly information on the difference between the image of the present frame and that of the preceding frame). Mangold et al. further discloses a transmission quality monitoring means for monitoring the reception quality of encoded data transmitted via the transmission channel **(See column 3 lines 16-62 and Figure 1 of Mangold et al. for reference to channel decoder 7 generating signals QP1 and Qp2, which are quality parameters that describe the quality of the transmitted signals)**. Although Mangold et al. does disclose that a reception control means takes a quality control action when the transmission quality monitoring means has detected that the quality of the transmission channel has deteriorated to a preset first state and thereafter has been restored to a preset second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again and for reference to changing the bit redundancy rate based on the current signal quality)**, Mangold et al. does not specifically disclose causing the communication device on the transmission side to transmit the first data in place of the second data by notifying the communication device on the transmission side of the monitored information.

With respect to claim 18, Mangold et al. discloses a communication device on the transmission side, which receives encoded data transmitted via a transmission channel from a communication device on the transmission side **(See column 3 lines 6-**

15 and Figure 1 of Mangold et al. for reference to a data transmission system for transmitting bi-directional transmission signals, such as video signals, over a telecommunications network 1 between two terminals, with one on the reception side and one on the transmission side). Mangold et al. also discloses that the encoded data is composed of a first data generated based on a plurality of original data having correlations on the time axis in the initial frame timing thereof and of a plurality of second data generated respectively in a plurality of frame timings subsequent to the initial frame timing with the first data having an independent meaning alone and the plurality of second data containing mainly a difference between the original data of a current frame and the original data of the preceding frame respectively with the original data being reconstructed from the received first and second data **(See column 1 lines 17-31 of Mangold et al. for reference to using MPEG4, which as disclosed by the Applicant's background uses an initial I frame, which has an independent meaning alone, and a plurality of P frames, which include mainly information on the difference between the image of the present frame and that of the preceding frame)**. Although Mangold et al. does disclose that a transmission control means takes a quality control action when the transmission quality monitoring means has detected that the quality of the transmission channel has deteriorated to a preset first state and thereafter has been restored to a preset second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again and for reference to changing the bit redundancy rate based on**

the current signal quality), Mangold et al. does not specifically disclose causing the communication device on the transmission side to transmit the first data in place of the second data.

With respect to claim 19, Mangold et al. does not specifically disclose a means for receiving a request for the transmission of the first data and a means for transmitting the first data in place of the second data in response to the request.

With respect to claim 20, Mangold et al. discloses a means for receiving the monitored information about the quality of the transmission channel from the communication device on the reception side **(See column 3 lines 43-52 and Figure 1 of Mangold et al. for reference to quality parameters QP1 and QP2 being transmitted via a multiplexer 12 from the device on the reception side to the device on the transmission side)**. Mangold et al. also discloses a means for causing the communication device on the transmission side to detect the deterioration of the reception quality to the first state at the communication device on the reception side and the subsequent restoration of the reception quality to the second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again)**. Mangold et al. does not specifically disclose a means for transmitting the first data in place of the second data.

With respect to claim 21, Mangold et al. disclose a two-way data transmission between the communication device on the transmission side and that on the reception side **(See column 3 lines 6-15 of Mangold et al. for reference to bi-directional**

transmission of signals such as video signals). Mangold et al. also discloses a means for causing the communication device on the transmission side to estimate the reception quality of the encoded data at the communication device on the reception side on the basis of the reception quality of a transmission data transmitted from the communication device on the reception side **(See column 3 line 16 to column 4 line 5 of Mangold et al. for reference to using the quality of channels determined in one direction to control the channel in the other direction meaning that the reception quality on the reception side is estimated based on the reception quality of transmission side, due to channels behaving very similarly in both directions)**. Mangold et al. further discloses a means for detecting the deterioration of the reception quality to the first state at the communication device of the reception side and the subsequent restoration of the reception quality to the second state **(See column 3 line 53 to column 4 line 12 and Figures 1-2 of Mangold et al. for reference to processor 14 determining when the signal quality has moved from one threshold to another and back again)**. Mangold et al. does not specifically disclose a means for causing the communication device on the transmission side to transmit the first data to the communication device on the reception side in place of the second data.

With respect to claim 22, Mangold et al. does not specifically disclose transmitting a request for the transmission of a first data to the communication device on the reception side and causing the communication device on the reception side to transmit the first data in place of the second data.

With respect to claims 1-4, 7, 13, and 18-22, Jeong, in the field of communications, discloses transmission of a first data in place of the second data in response to signal quality degradation **(See column 2 lines 38-49 for reference to a receiver requesting an I frame, which is a first data, in place of a P frame, which is a second data, in response to transmission packet loss as caused by a transmission signal degradation)**. Transmitting a first data in place of the second data in response to signal quality degradation has the advantage of allowing the receiver to more quickly recover from a period of signal degradation by receiving an I frame, which contains the complete data, instead of a P frame, which contains data that relies on the successful reception of previous data frames.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Jeong, to combine transmitting a first data in place of the second data, as suggested by Jeong, with the system of Mangold et al., with the motivation being to allow the receiver to more quickly recover from a period of signal degradation by receiving an I frame, which contains the complete data, instead of a P frame, which contains data that relies on the successful reception of previous data frames.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mangold et al. in view of Jeong as applied to claims 1-4, 7, 13, and 18-22 above, and further in view of Bi et al. (U.S. Publication US 2001/0010688 A1).

With respect to claim 5, the combination of Mangold et al. and Jeong does not disclose that when the reception quality is below a preset first threshold value continuously for a first time or longer, the transmission control means detects that the reception quality has deteriorated to the first state.

With respect to claim 6, the combination of Mangold et al. and Jeong does not disclose that when the reception quality is above a preset second threshold value for a second time or longer after the deterioration of the reception quality to the first state has been detected, the transmission control means detects that the reception quality has been restored to the second state.

With respect to claims 5 and 6, Bi et al. discloses detecting that a reception quality has deteriorated to a first state when the reception quality is below a preset first threshold value continuously for a first time or longer **(See page 2 paragraphs 11-14 and Figure 4 of Bi et al. for reference to determining that a signal quality has deteriorated to a first state when the quality is below a threshold R for a time of t_r or longer)**. Bi et al. also discloses detecting that a reception quality has been restored to a second state when the reception quality is above a preset second threshold value for a second time or longer **(See page 2 paragraphs 11-14 and Figure 4 of Bi et al. for reference to determining that a signal quality has been restored to a second state when the quality is above a threshold C for a time of t_p or longer)**. Using reception quality thresholds and waiting for the quality to be above or below the threshold levels for a preset time has the advantage of allowing the system a more smooth transition between signal quality states so that quick increases or decreases in

signal quality that last only a short period of time do not effect a change in detected signal quality.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Bi et al., to combine using reception quality thresholds and waiting for the quality to be above or below the threshold levels for a preset time, as suggested by Bi et al., with the system of Mangold et al. and Jeong, with the motivation being to allow the system a more smooth transition between signal quality states so that quick increases or decreases in signal quality that last only a short period of time do not effect a change in detected signal quality.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mangold et al. in view of Jeong as applied to claims 1-4, 7, 13, and 18-22 above, and further in view of Lee et al. (U.S. Pat. 5774479).

With respect to claim 8, the combination of Mangold et al. and Jeong does not disclose that the reception control means transmits the request for the transmission repeatedly at specific intervals until it has acknowledged the reception of the first data.

With respect to claim 8, Lee et al., in the field of communications, discloses transmitting a request at specific intervals until receipt of the request has been acknowledged **(See column 3 line 35 to column 5 line 6 and Figures 3-4 of Lee et al. for reference to sending a request, then waiting a specific interval to see if the request is acknowledged, and if the request is not acknowledged, sending the request again, and for reference to repeating this process until the request has**

been acknowledged). Transmitting a request at specific intervals until receipt of the request has been acknowledged has the advantage of providing a way for a transmitter of a request to make sure that an important request is received and processed by a receiver.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lee et al., to combine transmitting a request at specific intervals until receipt of the request has been acknowledged, as suggested by Lee et al., with the system of Mangold et al. and Jeong, with the motivation being to provide a way for a transmitter of a request to make sure that an important request is received and processed by a receiver.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Krishnamurthy et al. (U.S. Pat. 6754241) discloses a system where frames are dropped due to congestion and a request is made for the next frame to be an I frame after the dropping of previous frames.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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